

Packard, A.S.
View of the Lepidopterus fauna
of Labrador.
Proceedings. Boston Society
of Natural History, vol.5,
1867.

Dr. C. T. Jackson said that similar phenomena had been noticed in Russia, and alluded also to the well in Brandon, Vt., which exhibited the same peculiarities.

Dr. Jackson also spoke of the occurrence of veins of Dolomite in the Emery mine at Chester, in this State, which contained a crystallized sapphire.

Mr. S. H. Scudder was elected Custodian.

October 17, 1866.

The President in the chair. Thirty-three members present.

The following papers were read:—

VIEW OF THE LEPIDOPTEROUS FAUNA OF LABRADOR. BY A. S. PACKARD, JR., M.D.

This preliminary view of the Lepidopterous insects of Labrador is the result of the explorations of two summers. It will be seen that many of the most common forms are circumpolar species, common in high latitudes, showing that as regards the insect fauna, the assemblage found immediately upon the coast is almost purely arctic in its character, agreeing closely with the Greenland fauna, and more remotely allied to that of the Scandinavian mountains, especially the fields of Norway and Finnmark. In the interior of the country, where it is warmer and more thickly wooded, we should look for an assemblage similar to that developed by Dr. Barnston on the shores of Hudson's Bay, which consists of a large intermixture of boreal forms. Such incursions of boreal or "Canadian" species begin to be felt at Caribou Island in the Straits of Belle Isle in southern Labrador.

I am indebted to Mr. S. H. Scudder for a list of the butterflies, and to Mr. B. P. Mann for the loan of a few specimens collected by him in 1864, while a member of the same party as myself.

Argynnis Boisduvalii Sommer. Caribou Island, Straits of Belle Isle. From Square Island northward. July 14–August 3. Abundant.

Argynnis Triclaris Hübner. Caribou Island; and from Square Island northward. July 14–August 3. Abundant.

Argynnis polaris Boisduval. From Square Island northward. July 14–August 3. Abundant.

Argynnis Frigga Thunberg. Okak, Rev. S. Weiz, one specimen. *Grapta interrogationalis* Doubleday. Okak, Rev. S. Weiz; first time recorded from Labrador.

Chionobas Jutta Hübner. Hopedale, August 3. Square Island, July 14. 2 ♂. The species of this genus appear about the first of July.

Chionobas Bore Esper. Hopedale, August 3. Four specimens.

Chionobas Oeno Boisduval. Hopedale, August 3. Strawberry Harbor; abundant. Mr. Scudder does not consider *C. Also* Boisd. to be distinct from this species.

Lycæna Aquilo Boisduval. Hopedale, August 3. Henley Harbor, August 15. Very abundant. Sloop Harbor. It was first observed at Sloop Harbor, in Kyetarbuck Bay, July 19.

Pieris frigida Scudder. Caribou Island, Straits of Belle Isle. Not infrequent. July 14–30.

Colias labradorensis Scudder. Caribou Island. Frequent in July; first observed July 14. Hopedale, August 3.

Colias Palæno Linné. Strawberry Harbor, July 26. Frequent.

Colias Nastes Boisduval. Strawberry Harbor, July 26. Hopedale, August 3. Frequent.

Hesperia Comma Linné. Okak, Rev. S. Weiz.

Hesperia Centaureæ Boisduval. Okak; Weiz.

BOMBYCIDÆ.

Euprepia cæja Christoph. Entom. Zeitung, Stettin, xix. p. 312. 1858.

Whatever may be determined as to the specific distinction of *E. americana* as found in Canada and New England, the form which we meet with in Labrador has every appearance of being an introduced species.

species. It occurred in the larva state at Gore Island, near the Little Mecatina Island, in southern Labrador, where the caterpillars were full fed, and wandering over the herbage. This specimen is much smaller than a specimen before me from England, but the coloration and markings are the same, and it can scarcely lay claim to be considered as a climatal variety. At Caribou Island the larva were found in July in various stages, feeding on the *Potentilla anserina*, near the sea. A specimen from Okak varies from the Gore Island specimen in having less whitish marks, as they are inclined to be obsolete. The patagia are white in the Labrador specimens, and brown in the English specimens; this is the principal distinction.

The larva was found full fed, crawling over herbage on June 15th, at Little Mecatina Island, and it had no doubt hibernated in this state.

The body was black, with large white papillae, from which on the thoracic rings rise short yellow hairs like those on the sides of the body. Above, the white papillae are large and conspicuous, and from them arise long, thin, mostly irregular fascicles of pale gray hairs, with shorter and fewer black hairs, the longer ones equalling in length the breadth of the body.

It is of the usual size, and its tri-colored hairs and white papillae give a striking appearance to this handsome larva.

It began to spin a cocoon June 26, and the moth appeared July 27.

Platartia borealis Packard, Proc. Ent. Soc. Phil., iii. p. 111. 1864.

Arctia borealis Möschler, Wien. Entom. Monatsch. iv. p. 360. Taf. 9. fig. 8. 1860.
Okak, Rev. S. Weiz.

Arctia Quensellii Paykull, Hübner. Christoph, Ent. Zeitung, Stettin, xix. p. 312. 1858.

Arctia speciosa Möschler, Wiener Ent. Monatsch. viii. 1864. p. 195. Taf. 5. fig. 13 ♂, 14 ♀.

Nemophila (Chionophila) *Quensellii* Guéneé, Ann. Soc. Ent. France. 4^e Trim. 1864.

It is very desirable to have specimens from the Alps and arctic regions of Europe, before deciding on the identity of so variable a species as the present. However entomologists may differ as to the specific character of this form, there can be no doubt that with *A. Dione* and *A. virguncula* of Kirby, it forms but a section of the genus *Arctia* as restricted by us in the Synopsis of the Bombycidae of the United States. (Proceedings of the Entomological Society of Philadelphia, Vol. iii, p. 115, 1864).

Guéneé, in the work cited above, refers the *Arctia cervini*, which is very closely allied to *A. Quensellii*, to the genus *Nemophila* of Stephens, and then goes so far in the subdivision of this "genus" (*Nemophila*) as to eliminate from it the genus *Chionophila*, in which he includes *Chionophila plantaginis* (Linn.), *C. Quensellii* (Paykull), *C. glaphyra* (Eversm.), and *C. virguncula* (Kirby).

We have two males from Okak, together with two females from the alpine summits of the White Mountains of New Hampshire. One of the latter was reared from the pupa by the late Mr. C. A. Shurtleff, and taken on Mount Washington, while the other was reared by myself from a larva found by Mr. Scudder on the summit of Mount Madison. None of the specimens are alike, all presenting marked variations. The ♂ specimens from Okak are much smaller than those (♀) from the White Mountains, the abdomen is blacker, and the yellowish white lines are not visible from above on the abdomen; but these seem to be but sexual differences. In one of the Okak specimens the hind wings are entirely black, with the darker diffuse discal spot unusually distinct; but another much rubbed specimen presents indications of being streaked on the hind wings like one of the White Mountain (♀) specimens. The two specimens from Okak differ as much from one another as the two White Mountain moths; the two outer subcostal square patches in one being united, and in the other, separated. One of the White Mountain moths differs from all the others of both sexes, in having a transverse yellow band crossing the inner third of the wing, thus breaking the surface up into black spots, which seems to be an unusual variation. The front of the head, also, is entirely black, where in all the others it is yellowish with a central black spot varying in size.

Both ♂ differ much from Möschler's figure of *A. Quensellii*, var. *speciosa*, in that the body is entirely black above, and the fore wings have broader yellow bands and the hind wings are entirely black.

Arctia — ?

A singular larva was found on the Larch, at Square Island, July 8th. It is remarkably short, thick, broad, and a little flattened; and so densely covered with short, evenly cut, very broadly spinulated hairs that the segments of the body can not be distinguished; the dorsal hairs are shortest and thickest, those on the sides are longer and more uneven. Seen from above, both ends of the body are concealed by over-arching hairs, causing both extremities to look alike. The head is black, body beneath black; false legs livid; hairs dark umber-brown, appearing as if dusted over, owing to the remarkably long pectinations or spinules of the hairs. On each side is a subdorsal,

obscure, rather broad band of yellow on the first eight abdominal rings, not appearing on the thorax. Length one inch; breadth one-third of an inch.

Orgyia Rossii Curtis. Möschler, Wien. Ent. Monatsch. iv, p. 360. Nov. 1860. "Labrador," Möschler.

NOCTUIDÆ.

Leucania rufostrigata n. sp.

♂. Of a pale whitish luteous gray. Head and body alike colorous. Fore wings with the costal nerve streaked with whitish scales, as is the median nerve and its branches. The middle of the wing (longitudinally) is shaded with rusty brown between the nervules; a marginal row of rusty streaks is situated between the nervules. Fringe concolorous with the rest of the wing. Hind wings paler, with no markings, and only a marginal row of brown inter-nervular lines; fringe paler. Beneath, a shade darker than above on the costa; below the submedian whitish; nervules darker. Hind wings with no discal dot on the fore wings; growing paler inwards. Legs not ringed, concolorous with the body.

Length .57; fore wing .57 inch.

This species is short and stout, with unusually short, broad wings; the antennæ have long cilia; while the middle of the fore wings is covered with slightly reddish brown scales, but the costal nervures are paler, and there is a marginal row of reddish-brown streaks ending in lunules.

Rising at twilight out of the tall beach-grass on Caribou Island, Straits of Belle Isle, July. Frequent, flying July 24 around the Beach Pea.

Agrotis littoralis n. sp.

♂. Of a uniform glossy pale luteous tawny-brown; antennæ well pectinated. Palpi very large and stout, with long cilia beneath; the third joint long, porrect, cylindrical, acute, end of second joint sloping continuously with the front, which is concolorous with the thorax and abdomen, being of a pale tawny-brown. Fore wings smooth, on the basal third of the wing an oblique irregularly 4-dentate line, the teeth sinuate between the nervules, pointing outwards between the median, submedian and internal nervures, but directed inwards on the median space, then curving outwards on the costa nearly to the middle of the inner discal circle, which is large, and formed by a simple brown unshaded ring; the outer reniform spot is large, and shaded on the inner half, especially on the lower end at the origin of the mesial nervules. Beyond is a simple line, broadly

curved opposite the reniform dot, going from the outer third of the costa around to the inner third of the hind margin. Beyond is a parallel line of dark streaks of uniform length and width, situated either upon, or between the nervules. Beyond is a submarginal line diffusely shaded inwards, and forming a diffuse triangular dusky spot on the costa, below which is an angular sinus; on the submedian fold it is bent inwards; a marginal dark line, scarcely interrupted by the nervules. Fringe concolorous with the rest of the wing. Hind wings a little more dusky than the anterior pair, pale on the costa; edge dark; fringe pale tawny, concolorous with the costa. Legs darker than the body. Beneath dusky, with a diffuse dusky discal spot, and two parallel dusky lines; beyond, a broad, paler margin. On the hind wings is a lunate discal dot, and an outer diffuse, obscure, shaded patch on the costa.

Length of body .62; fore wing .60 inch.

Differs in its wings being of an uniform tawny color, with a plain ringlet, and large reniform dot, with the rows of dots beyond; by the submarginal diffuse line, and well pectinated antennæ.

Caribou Island, found in abundance with *Leucania rufostrigata* rising, when disturbed, from the beach grass. July 24.

Agrotis umbratus n. sp.

♂. Of a peculiar uniform ashen umber-brown, with a slight olivaceous hue. Head and thorax concolorous with the fore wings, head a shade darker. Antennæ concolorous, well ciliated as usual. Fore wings uniformly ashen-umber, with an indistinct black line on the inner third, which is straight on the costa, but angular just below the median nerve, and there is a very acute long angle on the inner edge. A lunate discal black dot, shaded diffusely within with black; an outer curved, very acutely zigzag black line, the teeth very long, acute and narrow, curving around, and ending on the costa; above and opposite to the discal dot, the line is very slender and consists simply of dots and points, rather than a continuous line. A slight, obscure, submarginal line. Fringe scarcely lighter than the wing. Hind wings pale, nearly concolorous with the abdomen, without lines, discal dot also obsolete. Legs ringed with paler bands.

Beneath uniform cinereous, with a dusky outer diffuse line, which is much curved; on the hind wings obsolete on the inner margin. No discal dot on the fore wings, very obscurely marked on the hind wings.

Length of the body .65; fore wings .70 inch.

This fine species is characterized by the want of definite markings. There is no discal dot on the hind wings above, or on the fore wings below. It may be known by the very acutely zigzag line consisting

of very acute points, with dots between, and no other markings except the inner line and the diffusely shaded discal dot.
Okak, Rev. S. Weiz.

Agrotis Okakensis n. sp.

♀. Cinerous, with an obscure lilac tinge. Head and palpi sabbrown, as is also the prothorax. Antennæ pale, whitish above, minutely ciliated. Thorax concolorous with the fore wings, while the abdomen is concolorous with the hind wings. Fore wings pale ashen, with a slight lilac tinge, especially on the costal and outer and inner edges, the middle of the wing being reddish-brown, which tints into the costa near the apex, where are also three minute oblique parallel whitish streaks. An oblique brown line, partially obsolete at the base, goes from the costa inwards. The inner discal dot is a large triangular, very conspicuous pale spot, darker within, and becoming obsolete on the costa, as if truncate. An oblique whitish stripe on the submedian, just below the inner triangular spot. The reniform dot is close to the inner discal dot, the lower lobe is much the larger, and the edge whitish, within lilac-cinerous; between the two spots the wing is clear brown. An outer obscure brown line forms a great S, curving inwards regularly from near the inner angle, then sweeping by a great curve outwards, opposite the discal spot, being once acutely, finely toothed just below the costa, and thence going obliquely by a straight course back on to the outer fourth of the costa. A little beyond is a similar, more obscure submarginal line, beyond which the margin is lilac-gray; a marginal row of brown linear spots, fringe ashen-brown. Hind wings with no line, discal spot obscure and diffuse.

Beneath, the same as the hind wings above, with no cross-lines, while the discal dot on both wings is diffuse, but distinct. Costa a little more dusky, edge of fore wings slightly pale cinereous, concolorous with the costa of the hind wings. Legs brownish.

Length of the body .65; fore wing .60 inch.

This species is smaller than *Agrotis Wockei* Möschler, differing in having no common line on the under side; in having no dark streaks wanting the subapical dark spots. The reniform dot in *A. Okakensis* is larger beneath, while the inner discal dot is much larger and distinctly triangular. Otherwise it is more closely related to *A. Wockei* than any other species.

Okak, Rev. S. Weiz.

Agrotis dissona Möschler, l. c. p. 365. Taf. 9, fig. 5. 1860.

"*Agrotis rara* Herrich-Schäffer, Bd. vi. p. 59. Suppl. fig. 554," "Labrador," Möschler. p. 367.

Agrotis comparata Möschler, l. c. viii. p. 196. 1864.
"Labrador," Möschler.

Agrotis speciosa Hübner. Möschler, l. c. 196. 1864.
"Labrador," Möschler.

Agrotis Wockei Möschler, l. c. 196. 1864.
"Labrador," Möschler.

Agrotis fusca Boisduval. Möschler, l. c. 197. 1864.
"Labrador," Möschler.

Agrotis septentrionalis Möschler, l. c. 197. 1864.
"Labrador," Möschler.

Dianthocæcia phoca Möschler, l. c. 197. Taf. 5, fig. 15. 1864.
"Labrador," Möschler.

Dianthocæcia subdita Möschler, l. c. 363. Taf. 9, fig. 7. 1860.
"Labrador," Möschler.

Pachnobia carnea Thunberg. Hübner, 435. *Ampla*. 377. *Tecta*. Möschler, l. c. 198. 1864. Herrich-Schäffer, Suppl. 401. Bd. ii. p. 198.
"Labrador," Möschler.

Hadena exornata Möschler, l. c. 1860. Taf. 9, fig. 5. p. 364.
"Labrador," Möschler.

Mamestra arctica Boisduval.

One specimen, Straits of Belle Isle, (Hopkins).

Episema? *gothica* Christoph, l. c. p. 312. 1858.
"Labrador," Christ.

Anarta (*Crymodes*) *exulis* Lef. Möschl., l. c. 1860. p. 364.
"*H. gelata* Lef. *H. grenlandica* Dup. *H. fovea* Dup. *Neuria cervina* H.-Schäffer. *Exarnis diffusa* Hübner. Geyer. *Noctua arctica* Thunberg. *Crymodes gelida* Guén. *C. poli* Guén. *Hadena marmorata* Zettlér," Möschler.

Anarta *Richardsoni*.

Hadena Richardsoni Curtis, App. Ross' Voyage. Pl. A, fig. 11.
This species is a true *Anarta*, though the palpi are not so stout as usual in the genus.
Okak, Rev. S. Weiz.

Anarta gelata ?

? *Hadena gelata* Lefebvre, Ann. Ent. Soc. France, vol. 5. p. 393. Pl. x, fig. 3. 1836.

So closely allied to Lefebvre's *gelata*, that I do not at present dare to separate it, as my specimen is somewhat rubbed. It differs in its roseate head and prothorax, and the submedian linear light spot is much nearer the larger median one than in the figure of Lefebvre.

The wings beneath are of a uniform cinereous, with a luteous tinge, and are slightly reddish towards the costa. The palpi are darker and more concolorous with the head than Lefebvre's description would indicate.

Okak, Weiz.

Anarta nigro-lunata n. sp.

♂. Of the usual dusky cinereous color, with black and white scales. Abdomen darker than usual. Palpi stout, ascending, passing as usual beyond the front, beneath paler. Fore wings with a black costal spot at base, and beyond an oblique black line directed inwards to the median nerve. An inner round discal black spot, with one beneath, and a third narrower one on the inner margin. The reniform dot is very large, black, distinct, dilating on the lower lobe; beyond is a sinuate line of black dots; a sub-marginal diffuse sinuate zigzag line within, extending on the costa to the line of black dots; margin clear gray, fringe dusky, interrupted with narrow white streaks. Hind wings black, with the middle white; the black base reaches to, and partially includes the large, broad, discal, regular, lunate spot, and broadly lines the inner edge, and also the margin. Fringe white.

Beneath whitish, with the reniform dot present on the fore wings, and the discal dot on the hind wings large black, appearing distinct on the white wings. Dusky towards the base, the black extending also on to the costa and inner margin. A rather broad, dusky, sub-marginal line on the fore wings, which is doubled on the costa. A marginal row of internervular black lines. Fringe dusky, with white streaks. Hind wings with a broad blackish margin; fringe white.

Length of body .45; fore wing .46 inch.

Okak, Rev. S. Weiz.

At once known from all the other species by the two large, black, discal spots, the outer being larger and reniform; and also by the large lunate discal spot on the hind wings, which together with the reniform dot, is very conspicuous on the white underside. Beyond the reniform spot, the row of black dots, and the clear grey edge of the wings will farther distinguish it from any other *Anarta*, though, in many respects it approaches *A. richardsoni*.

Anarta leucoicycla Standinger, Ent. Zeitung, Stettin, 18. p. 296.

1857.

Symphistis leucoicycla Möschler, Wiener Ent. Monatsch. iv. p. 367. Taf. 9. fig. 6. 1860.

Labrador, Möschler; Greenland, Staud. Okak, S. Weiz.

Anarta bicycla n. sp.

♂. Closely resembling *A. leucoicycla*, but differs in having an inner and outer white discal circle, instead of a single one. Head very hairy, palpi ascending, reaching far beyond the front, being large and stout, with white and grey scales. Prothoracic scales whitish at base. Fore wings dark stone grey, with whitish scales; at the base an oblique sinuate black line goes from the costa to the median nerve. Beyond is a costal, square, oblong, black spot, connecting with four black spots, crossing the wing in a zigzag interrupted line, the second spot forming the outer side of the discal black line enclosing two unequal round white spots, centred with black, the inner one being a little elongated, and the outer round. Halfway between them and the inner edge, is a distinct regular black stripe, obliquely following the general course of the lower median nervule, and touching externally on an extra discal, sinuate, irregular whitish line, which before reaching the costa, strikes inward at a right angle, terminating in a white costal spot opposite the outer discal spot. Beyond is a submarginal sinuate black line, edged with pale gray. Fringe dark, with wedge-shaped white spots in the middle of the wing. Hind wings dusky at the base, nearly including the curvilinear discal dot; beyond white, except on the costa. Edge broadly margined with deep black, fringe white, dusky at base towards the apex of the wing. Beneath, the body is pale gray; fore wings dusky gray, with a minute discal black point opposite a dark costal stripe, edged without with white, which is angulated inwards towards the middle of the wing; outer edge margined broadly with black; fringe dusky, spotted with white. Hind wings towards the base more white than above. Abdomen gray. Legs dark, ringed with white.

Length of body .45; fore wing .45 inch.

♀. The wings are more oblong, and the outer edge straighter, and apex less produced than in the male. The costal spots are not so large; the wing is crossed by three distinct ziczac black lines which are more connected than in the ♂; the submarginal line is narrower, composed of cuneiform black marks. Beneath, the subapical, black, oblique stripe is broader than in the ♂.

Length .40; fore wing .44 inch.

This is not an uncommon species, and more of them were found

than of *A. algida* or *A. amissa*. It closely resembles *A. leucocycla*, but the hind wings are white, and the discal dot very much smaller. There are two white circles on the fore wings instead of one. The species can also be easily distinguished by the distinct black oblique submedian stripe, connecting with the outer extraradical zigzag gray line; and also on the broad black margin, especially on the fore wings. From *A. algida*, it differs by the same character, but also its much smaller size; and the outer row of cuneiform black spots is situated farther from the edge of the wing, and is much more sinuate. Whole Atlantic coast of Labrador, July.

Anarta amissa Lef. l. c. p. 397. Pl. x, figs. 6 and 7. 1836. Möschler, l. c. 1860. p. 367.

Okak, Weiz. It also occurs at Greenland and Lapland.

Anarta algida Lef. l. c. p. 395. Pl. x, fig. 5. 1836. Möschler, l. c. 1860. p. 367. Christoph, l. c. 1858. p. 312. "End of June, July." Christoph, Ent. Zeitung. Ent. Ver. Stettin, xix. 1858. Indian Harbor, Aug. Taken while resting on the herbage of this exposed locality. It also occurs in Lapland.

Anarta cordigera (Thunberg). Christoph, l. c. 1858. p. 312. Möschler, l. c. 1860. p. 367.

"Labrador," Christoph, and Möschler.

Anarta vidua Christoph, l. c. 1858. p. 312.

"Labrador," Christoph, and Möschler.

Anarta melaleuca (Thunberg). Christoph, l. c. 1858. p. 312.

Symphista melaleuca, Möschler, l. c. 1860. p. 370.

"Labrador," Christoph, and Möschler.

Anarta melanopa (Thunberg). Möschler, l. c. 1860. p. 367.

Anarta funesta (Thunberg).

Symphista funesta Möschler. ("funestis Hübner"). l. c. 1860. p. 370.

Plusia divergens Fabr. Möschler, l. c. 1860. p. 370.

"Labrador," Möschler.

Plusia parilis Hübner. Möschler, l. c. 1860. p. 371.

"Labrador," Möschler.

Plusia U-sureum Boisd. Möschler, l. c. 1860. p. 371.

"*P. interrogans* var? *P. grandica* Stand." Möschler.

"Labrador," Möschler.

Brephos parthenias (Linn.). Möschler, l. c. p. 371.

"Labrador," Möschler.

PHALÆNIDÆ.

Acidalia okakaria n. sp.

Very uniform, finely mottled gray, with a pearly lustre on both wings. Head with the vertex whitish; antennæ finely ciliated, gray above, with blackish fine scales. Front black, orbits with a few gray scales. Palpi black, with a few gray scales above. Wings with three dusky obscure stripes; the basal line oblique, not zigzag, obsolete on the costa and inner edge; a mesial oblique line; the outer parallel line once waved and flared outwards in the middle of the wing. No discal dot, or any other markings on either wings. Edge with a very narrow dark line. Fringe long concolorous with the rest of the wing. Hind wings with two lines, the inner very obscure, the outer more distinct, curved and sinuate slightly in the middle. Edge of the wing and fringe just as in the fore wing.

Beneath, very uniform gray, but little lighter than above, at the base of the wing a pearly lustre; darker on the costa and outer edge, with the lines as distinct as above, the outer more so, and flexed as above. No discal dot on the fore wing; that on the hind wings is nearly obsolete. Legs dark above, paler beneath.

Length of the body .38; fore wing .48 inch.

Okak, Weiz. Hopedale, August 3. Frequent.

This species is closely allied to, but differs from Möschler's *A. frigida* in having no discal dots except on the hind wings, and these are only apparent on careful examination. The lines are not waved, except at the slight flexure of the outer line. The antennæ are not white above, as they are said to be in Möschler's species, and the fringe is darker than his description of that of *frigida* would indicate, while the outer line is not pointed beneath on the nervules as in the other species.

Acidalia frigida Möschler, l. c. 1860. p. 373. Taf. 10. fig. 1.

"Labrador—Moravian missions," Möschler.

Acidalia spuraria Möschler, l. c. 1860. Taf. 10, figs. 6, 7. p. 372.

Aspilates spuraria Christoph, l. c. 1858. p. 312.

"Labrador," Christoph, and Möschler.

Okak, Weiz.

Aspilates gilvaria S. V. Möschler, l. c. 1864. p. 198.

"Labrador," Möschler.

Anaitis sororaria Hübner. Christoph, l. c. 1858. p. 313. Möschler, l. c. 1860. p. 373.

"Labrador," Christoph, and Möschler.

Macaria sex-maculata n. sp.

♂, ♀. Head pale gray, dusted with blackish scales. Palpi stout, bushy, with darker scales, extending well beyond the front. Thorax and body concolorous with the wings. Fore wings of a uniform stone gray, with brown scales, and six large conspicuous dark-brown patches, four on the costa, and two geminate ones on the middle of the outer third of the wing; the inner costal spot is nearly obsolete; the third one connects with an indistinct line, and goes straight to the inner edge, including the inner edge of the second square mesial spot, becoming obsolete toward the inner angle. Margin narrowly edged with brown; fringe dark gray, with darker nervular streaks, which become obsolete towards the inner edge. Hind wings paler, with a slight luteous tinge, a slight discal dot, and two obscure diffuse outer brownish lines. Fringe long, interrupted by dark spots.

Beneath, the costa and nervules are ochreous, with dusky mottled flecks; edge of the wings paler; just before the edge a broad dusky band, most distinct just below the costa, bounded within by a distinct dark line. Hind wings with a rather broad, diffuse, submarginal band. Edge of the wings flecked with white.

Length of the body .35; fore wing .45 inch.

This species differs from any more southern form by its smaller size, its dull, obscure, stone gray color; the two square, mesal, twin spots, the two outer obscure lines, and the double line on the hind wings. Also by the want of any discal dot on the fore wings, and the absence of the intradiscal lines.

Square Island, Labrador, July 14. Occasionally seen.

Scotosia dubitata var.

♀. Specimens of this species, which were collected in Hudson's Bay Territory by Barnston, and also in Canada, were referred by Mr. Walker in the Catalogue of the Lepidoptera in the British Museum, to a variety of the common European *dubitata*.

Our Labrador species agrees well with a specimen from the Fish River Lakes in Northern Maine, and they seem to present indications of a climatal variety of the European form. We have compared a Labrador and a Maine specimen with a single English specimen.

It is a large, pale cinereous species, with a reddish tinge. The fore wings are crossed by three reddish zigzag bands; the basal one being curved angularly on the costa. Beyond are three very zigzag lines, interrupted by two paler bands; the middle reddish band is less curved than the basal one, accompanied on the inner side by a dusky band; this line contracts slightly opposite the small, dark, narrow, oblique, discal spot, which is nearer the line than in the European

specimen. This line also contracts on the inner edge. The outer line is irregularly scalloped, but is straight on the costa, with a sub-acute curved angle on the lower subcostal nervule, below which is a broad, regular sinus, rounded out, terminating in the middle of the first median space, but not nearly upon, or just below the first median nervule, as in the English specimen. Below, the line is regularly scalloped between the nervules. Beyond, the submarginal line is much more dusky than in the English moth, with two faint rows of white strigæ on the nervules, with a distinct white submarginal line, and a black, linear, scalloped line; fringe dusky.

The hind wings are crossed by two distinct, but rather diffuse dusky submarginal lines, which are more distinct beneath, and do not appear in the English specimen. Beneath, it is more dusky than the specimen from England, with the outer line on the fore wing differing from the European moth as described above.

Length .55; fore wing .80 inch.

Caribou Island, Straits of Belle Isle.

Larentia polata Bois. "Phæstyle polaria Bois." Christoph, l. c. 1858. p. 313.

Seventy-five specimens were captured in a single day on a naked, almost bare rock at Table Island in Henley Harbor, which is much exposed to the open sea. They were in great abundance, settling down with their peculiar vacillating flight, like feathers on the ground.

There was considerable variation among them; some were more dusky than others, with a greater profusion of golden scales; in others the central dark band of ringlets became reduced to mere points on the inner edge, with the region on each side very pale, and almost entirely free from yellow scales; or the entire line may consist of points alone, accompanied by a broad, dusky, submarginal band. Others have no yellow scales at all, and the mesial band is diaphanous, leaving the discal dot very distinct, while all the characteristic bands and rows of dots are brought out in very clear relief, as in Lefebvre's var. *Brullei*. The size of the dusky spots on the fringe varies greatly.

Hopedale, Indian Harbor, Henley Harbor and Caribou Island, August. It is a truly arctic species, being found in Greenland and Lapland, and the colder exposed portions of the Labrador coast. Were it not for the broadly pectinated antennæ represented in Curtis's figure 12, Pl. A. of Ross's Voyage, Appendix, I should refer this (*Psychoporia Sabini* Curt.) to *L. polata*.

Larentia gelata Guénée, Lep. Pl. 14, fig. 6, may prove to be a variety of *L. polata*.

Dr. Staudinger says that the genuine *L. polata* is found in Lapland, while the Labrador form is the var. *Brullei*.

Eupithecia luteata n. sp.

More luteous on the fore wings than usual. Palpi rather stout, hairs scarcely as long as usual; front dark cinereous; thorax and abdomen dark cinereous. Fore wings cinereous, with darker scales, especially on the costa, and towards the apex, the base of the wing is crossed by dark diffuse lines; discal dot larger, more diffuse than usual; beyond is a broad luteous band, very diffuse and irregular, but free from dark scales, and still beyond is a submarginal diffuse blackish band; fringe as usual. Secondaries with a dusky discal spot; edge of ring black; fringe long, cinereous, interrupted by narrow dusky spots; inner margin of the wing with blackish scales, gathered just beyond the discal dot into a faint diffuse line, disappearing towards the middle of the wing.

Length .35; fore wing .42 inch.

Caribou Island, Straits of Belle Isle, July 14, 1860.

This species is much larger than several allied forms from Maine, and the discal dot is more diffuse and larger, the space beyond luteous, more clear from dark scales, while the anterior two-thirds of the hind wings are clearer.

Beneath, the discal dot is distinct, on the fore wings being black, linear; with an outer slightly sinuate line; a little dusky on the costa and outer edge. On the hind wings a dusky line, more distinct than above. Legs pale, as usual.

Eupithecia gelidata Möschler, l. c. 1860. p. 376.

“Labrador,” Möschler.

Melanippe gothicata Guénée. *Cidaria hastata*, var. *gothicata* Guén. Möschler, l. c. 1860. p. 373. Taf. 10, figs. 4 and 5.

Two varieties occurred in abundance at Caribou Island in July. One of the forms is common in Maine, the other was one half white; the black spots are partially obsolete, and this variety has never been detected south of Labrador, so far as I know; but I should agree with Dr. Staudinger in considering it a simple variation.

Coremia labradorensis n. sp.

♂. Allied to *C. propugnata*, but the antennæ are much more finely ciliated. Palpi as usual. Body dark cinereous with black scales, and some of a slightly reddish tinge. Abdomen with a pair of oblique diverging black streaks on each ring. Base of the wing brown; beyond, a broad cinereous band; a broad, brown mesial patch; the inner side regularly curved outwards, not zigzag, but with the edge entire, with a broad, black line; in the middle of the band two

dark, slightly oblique sinuate lines; the outer side of the band is very irregular, consisting of two large, unequal, subacute teeth, the lower larger and double; below, the band contracts, being bidentate on the outer edge, which is black. Beyond is a row of nervular dots; the usual submarginal whitish zigzag line, with the edge black between the nervules; fringe dusky. Hind wings with indistinct dusky zigzag lines.

Beneath, the outer side of the mesial line is partially reproduced, especially on the costa. Discal dot distinct, especially on the hind wings, which are crossed by two outer black irregular lines.

Length of the body .40; fore wing .55 inch.

This species is a transitional form to *Cidaria*; its essential characters closely alluding it to *Cidaria*, while the style of coloration is that of *Coremia*, though we should scarcely feel justified in uniting the two genera.

It differs greatly from *C. propugnata*, in the dull brown middle portion of the middle band; and in its very irregular and quite different outer edge, with its mottled and strigated outer border. Like that species, however, it wants the geminate dark spots on the outer margin of the fore wings.

Caribou Island, Labrador.

Cidaria russata W. Verz.

Specimens not differing from those inhabiting New England, especially Maine and the White Mountains, occurred not unfrequently at Caribou Island, August 19.

Cidaria brunneata n. sp.

This fine species in its long, slender, acute wings, with the outer margin unusually oblique, and in its style of markings, is related to *C. russata*, though very much smaller. It may be readily recognized by the two broad brown bands, which are irregular on the edges.

♂. Antennæ filiform, long and slender, minutely ciliated beneath, basal joint white. Palpi short and small, rather hairy, a little up-curved, scarcely passing beyond the front, which is cinereous, with dark scales.

Thorax cinereous, with dark scales, abdomen paler cinereous. Wings quite uniformly dark ashen; a sub-basal irregular brown band, whitish on the costa, and edged with whitish below; a broad, mesial, dark cinereous band, three times as broad on the costa as on the inner edge, with each side irregularly dentate; on the inner side a large tooth near the inner edge of the wing; on the outer edge, a large tooth situated on the first median nervure. Beyond, is a broad brown band,

similar to the inner one, narrowed in the middle by the large tooth of the mesial band, margined with a paler line of acute spots, and becoming black on the costa; a minute oblique pale apical streak; black spots on the margin as usual; fringe dusky; no discal dot; on the pale hind wings a discal spot with two outer submarginal curved lines.

Beneath, paler, subluteous on the outer third of the fore wings, like the entire surface of the secondaries, which have a submedian dusky patch, most distinct on the costa; fringe pale, interrupted with dusky. Legs dark, banded conspicuously with white.

Length .85; fore wing .45 inch.

It may be known by its inner and outer broad brown bands, margined externally with whitish, the inner band becoming whitish, the outer blackish, on the costa.

Caribou Island, mouth of Esquimaux River, August 3.

Cidaria destinata Möschler, Wien. Entom. Monatsch. p. 375. Taf. 10, fig. 2: Dec., 1860.

This species is easily known by the broad, dusky, scalloped, obscurely bidentate mesial band, with a deep sinus on the outer side, on the median vein; and by the submarginal row of acutely triangular black spots, and the blackish apical patch.

Hopedale, August 3, 1864. A single specimen.

Cidaria nubilata n. sp.

♂. Uniformly dark cinereous, with darker and whitish scales. Head dusky, with whitish orbits, and base of antennæ white; palpi long and slender, porrect, whitish above and at the extreme tip, dark beneath; ends of tegulae whitish; antennæ flattened, simple, ciliated beneath. Fore wings uniformly dusky cinereous, near the base two parallel white lines, straight on the costa, and on the costa the same distance apart as the three succeeding lines, below zigzag; the inner line acutely pointed inwards on the subcostal vein, thence going straight to the inner edge; second line acutely dentate outwards on the median cell. In the middle of the wing are two parallel lines, equidistant from the other lines, white, edged within with black, which are succeeded behind by a row of obscure ringlets. The outer distinct white line crosses the wing, margined within with blackish, has a long curve outwards from the costa to the middle of the extra-discal space, with a large, broad, obtusely tridentate expansion, below which it goes straight to the inner edge, but is minutely serrate. An outer submarginal zigzag line of acute internervular triangular dots; a white apical streak, edged below with blackish. Fringe unusually

dark and dusky, with still darker obscure spots on the ends of the nervules. Hind wings dusky, pale at base, with two parallel whitish zigzag lines, shaded within with dusky; edge dusky; fringe a little paler than on the fore wings, with dusky spots; no discal dots above.

Beneath, the wings are dusky, with a faint luteous tinge towards the apex; costa with four dusky marks, the third forming the beginning of the outer extra-discal line, which is broadly sinuate opposite the discal dot, is angulated outwards slightly on the median vein, and inwards again on the second or third median vein. This line, on the hind wings, is regularly curved, angulated obtusely inwards on the inner edge of the wing. Beyond, is a dusky obscure line, a dusky apical streak, and below a little dusky on the edge. Fringe paler than above, with a peculiar, somewhat luteous tinge, interrupted with dusky nervular spots. Discal dots very distinct, being linear on the fore wings, and ovate on the secondaries. Legs dusky, annulated with white, abdomen with two dorsal rows of dark spots beginning on the second segment. Length .50; fore wings .65 inch.

This species closely resembles *C. destinata*, but differs in the dark dusky fringe, which Möschler states to be white in *C. destinata*; also in the two white lines being broadly angulated in the middle, and in having the broad lobe of the extra discal line well rounded, with the three teeth subequal, where in *C. destinata* they are very unequal. These three lines are much farther apart, especially on the inner edge, than in *C. destinata*, and the wing seems to be more uniformly dusky than in the other species, as the broad band between the basal and second line is dusky, like the rest of the wing.

It is also closely allied to Möschler's *Lygris lugubrata*, which seems to be a true *Cidaria*, but differs in the checkered fringe, in the two middle bands being united into one, and in the two whitish bands on the hind wings being more zigzag. Otherwise in the general style of the markings and coloration, it approaches very closely Möschler's species.

Cidaria lugubrata.

Lygris lugubrata Möschler, Wien. Entom. Monatsch. Vol. VI. p. 136. Pl. 1, fig. 7. 1862.

Moravian Stations, Labrador.

Cidaria nigro-fasciata n. sp.

♂. Front full, hairy, cinereous, with black scales; palpi long and slender, porrect, extending far beyond the front; second joint bushy, broad at the tip; third joint acutely conical, depressed. Antennæ dark, stoutly ciliated, with short, stout pectinations, thorax concolorous.

ous with the front. Wings pale cinereous, with two fine, basal, black parallel lines, bent on the costa; a broad, mesial band, deep black on the edges, consisting of four bands, the outer ones heaviest, and shaded diffusely within with black, two-thirds as wide on the inner edge as on the costa; a faint discal streak; the outer line of this broad band is very black, straight on the costa; on the first median vein it has a large acute tooth, of which the lower side is nearly continuous with the course of the band. On the costa, one-half way between this band and the apex, is a square, dark spot, margined with white externally, which is the beginning of a white zigzag line, continued to the inner edge of the wing. Beyond, the edge of the wing is dusky, with a marginal row of geminate internervular fine black dots; fringe dusky at base, paler on the outer half. Hind wings with no discal dot; two outer zigzag dark lines parallel with the dusky edge of the wing, and a row of geminate black dots and fringe, as on the primaries.

Beneath, pale, with a luteous tinge; on the basal fourth of the costa is a conspicuous black spot; a mesial curved linear costal line, beyond is a sinuate black line, most distinct on the costa. Outer edge of the wing dusky, fringe as above. Discal dots distinct on both wings. An outer curved sinuate line, especially marked on the veins. Fringe paler than on the fore wings. Abdomen pale ashen with a dorsal row of black geminate dots.

Length .53; fore wing .43 inch.

August 2. Caribou Island, Labrador.

This species may be easily recognized by its minutely pectinated antennæ, each branch of which ends in a slight tuft of long ciliæ; by the long dark palpi, paler at tip, the broad, mesial band, both black on the outer and inner edges, and not narrowing on the inner edge so much as usual; by the broad dusky patch between this and the apex, margined externally by a white line, and by the hind wings having two distinct waved lines on the outer half, and also by the very distinct double row of black abdominal spots.

Cidaria strigata n. sp.

Like the one preceding, this species has short, broad wings, not so acutely pointed as in the typical species, but the palpi are long and slender, much as usual.

♂. Antennæ with unusually large pectinations, dark, concolorous with the front and the palpi, which are long and slender, especially the third joint. Fore wings with two basal lines, a broad, black band, contracting greatly just before the hind edge, where it is about one-third as broad as on the costa; a broad, mesial tooth on the outer

edge, below a little sinuated. This band is accompanied on the outer edge by a marginal dusky band, not present in *C. nigro-fasciata*. Beyond, is a row of fine, nervular, black dots; a submarginal white zigzag line, going obliquely to the apex. On the costa is a subapical pair of black stripes, the inner of the two being oblique. The hind wings are pale, with very faintly marked lines. Luteous beneath towards the apex. Two dark lines beneath, the outer one consisting of dots. Discal dots distinct, abdomen dusky, with the segments edged with white.

Length .40; fore wing .50 inch.

Differs in its broadly pectinated antennæ, the broad, mesial, black band narrowing rapidly on the inner edge. Also by the distinct discal dot, and the quite distinct dusky line along the outer margin of the band with the distinct oblique black line on the costa near the apex, and the black dots beneath the spot on the inner margin.

August 3. Caribou Island.

Cidaria aurata n. sp.

♂. Dull, obscure cinereous, dusted with golden scales. Front whitish, with dusky scales; base of the antennæ whitish, beyond minutely annulated with white; palpi black-brown, much darker than usual. Wings ashen, mottled thickly with dull dark scales, which are arranged in three dark, dull, obscure, diffuse broad bands, of which the outer two unite just below the median vein to form a broad patch; these lines are zigzag on the outer edges, and margined with whitish points; a parallel row of irregular golden scales, especially visible on the outer third of the wing, and also on the inner edge along its whole length. Edge of the wing dark; fringe dark at the base. Hind wings with a distinct discal dot; clear in the middle, but towards the outer edge becoming mottled with dark. Abdomen dark, ringed with whitish. Beneath, pale whitish cinereous, the lines obscurely repeated, especially marked on the costa; abdomen paler beneath. Legs pale, fore legs dark, narrowly annulated with white.

Length .52; fore wing .70 inch.

Differs in its short dark palpi, acute fore wings, which are dusted with bright golden scales on the outer third, and on the inner margin, and very faintly on the outer edge of the secondaries.

I have specimens from Otok, and Caribou Island. It also occurs not uncommonly at the White Mountains, where it was captured by Mr. C. A. Shurtleff, August 1-11, in Tuckerman's ravine, specimens of which are in the collection of this Society. Mr. F. G. Sanborn has also obtained it from Mt. Washington, New Hampshire.

There are rubbed specimens of three other species of *Cidaria* from Labrador, too much injured for description.

Cidaria disceptaria (F. R.) Christoph, l. c. 1858. p. 313.

"*Labrador*," Möschler, l. c. 1860. p. 375.

Cidaria obductata Möschler, l. c. 1860. p. 374. Taf. 10. fig. 3.
"an *luctuata* var.?"

"*Labrador*," Möschler.

Cidaria populata (Linn.) Möschler, l. c. p. 375.

"*Labrador*," Möschler.

Cidaria destinata Möschler, l. c. p. 375. Taf. 10, fig. 2.

"*Labrador*," Möschler.

Cidaria caesiata W. Verz. Möschler, l. c. p. 376.

PYRALIDÆ.

Botys ephippialis Zettst. Möschler, l. c. Taf. 10. fig. 8, p. 377.

"*Labrador*," Möschler.

Botys torvalis Möschler, l. c. viii. p. 198. Taf. 5. fig. 16.

"*Labrador*," Möschler.

Scopula glacialis n. sp.

♂. Resembles *S. prunalis* of Europe, but the palpi are a little shorter, and it is a smaller species throughout, while the apex of the fore wings is more obtuse. Of an uniform pale ashen, palpi dark on the sides, with a dark narrow line on each side and in front. Fore wings with a thrice deeply zigzag narrow black line near the base; an obsolete dark line crossing the discal space, turning outward, and becoming angulated on the submedian vein; beyond, is a paler space, on the outer edge of which is a distinct submarginal curved row of black dots, which in the middle are slightly wedge-shaped. Beyond, the wing is cinereous, with a slightly tawny tinge, as at the base of the wing. A marginal row of equilateral triangular black dots. Fringe concolorous with the wings, with a dusty line at base. Hind wings a little paler; that of the fore wings with no markings, fringe paler.

Beneath, cinereous, hind wing a little lighter than the fore wings; costa of primaries paler, with five very distinct black dots on the outer half, and the marginal row very distinct. From the middle costal dot goes a nearly straight dusky line, curving inwards, and fading away on the second median cell. A diffuse discal discoloration connects with the first costal dot. Legs pale, silvery.

Length .30; fore wing .38 inch.

Hopedale, August 3, 1864.

Pyrausta borealis n. sp.

♀. Dusky brown; head and palpi somewhat tawny; thorax brown, antennæ black-brown; fore wings dusky brown, with tawny yellow markings; deep tawny at basal two-thirds of the costa, which forms a curved line, turning abruptly, and terminating on the basal third of the inner edge. On the middle of the discal area, near the third of the wing, is a black discal spot. A broad, irregular, diffuse, submarginal, yellow band, expanding on the costa, and connecting in the middle of the wing with the marginal yellow band. There is above an obscure, discal discoloration. The edge of the wing is narrowly margined with black. Fringe dusky, concolorous on both wings, base blackish. Hind wings blackish on the basal two-thirds, especially beyond the discal dot, forming a curved band; beyond is a yellow, regular line, then a submarginal black-brown line, and a narrow linear yellow marginal line; edge narrowly black; fringe dusky. Abdomen paler, with luteous bands; body beneath pale ashen, concolorous with the legs.

Beneath, the wings are mostly yellowish, instead of dusky, as above, with the dark bands much as above; the inner and outer discal dots present.

Length .31; fore wing .32 inch.

July 14. Square Island, Labrador. Rare.

Eudorea? frigidella n. sp.

Wings long and narrow, costa rather convex; blackish, powdered with gray; discal dot distinct; an outer darker line margined externally with pale gray, and once sinuate in the middle. A marginal row of black dots, fringe pale. Beneath, uniformly dusky, fore wings darker, especially the costa. Legs dark, ringed with pale dots. Length of the body .45; fore wing .50 inch.

A common species at Caribou Island, and readily distinguished by its long wings and single sinuate line, as if dislocated in the middle of the wing.

Eudorea centuriella Christoph, l. c. 314. *Eudorea borealis*, Duponchel, Lefebvre, Ann. Soc. Ent. de France, v., p. 400. 1836. Labrador, Christoph.

Eudorea? albisinuatella n. sp.

♂. Cinereous, with whitish scales; head ashen, with white scales on the base of the antennæ, which are very slender, whitish above and on the sides of the front. Palpi very long and slender, acute, white above, and especially beneath, dark on the sides. Thorax gray,

with numerous white scales. Fore wings dusky gray, a mesial longitudinal white stripe just beneath the subcostal vein, connects with a broad regular transverse oblique white band, which is diffusely lined with whitish scales forming a transverse shade. Beyond, dusky, a submarginal white band, curved on the costa, angulated outwards on the extra-discal cell, then going obliquely and parallel with the outer edge, to the inner edge. Fringe ashen, white opposite the disc, and on the inner angle. Abdomen, hind wings and legs, all concolorous, of an uniform ashen, paler than the fore wings, with no markings; extreme edge blackish; base of fringe with a dusky, narrow line.

Beneath, very uniformly ashen, costa of fore wings with whitish scales; only the outer white sinuate line present, most distinct on the costa; edge of both wings blackish; fringe narrowly interrupted with white; legs whitish beneath.

Length .35; fore wing .40 inch.

Easily known by the submarginal sinuate white line, the oblique dusky band, just within the middle of the fore wing, shaded with white on each side.

Okak, Weiz.

Crambus unistriatellus n. sp.

Of the usual yellowish-brown color; head and palpi very pale gray, concolorous with the abdomen; palpi long, slender, acute, whitish above and within. Fore wings with a single, broad, uninterrupted, longitudinal white band, edged on each side with a few dark scales; the line extends to the outer edge, expanding upwards on the apex of the wing; edge of the costa narrowly bordered with white towards the apex; a submarginal row of black minute dots; fringe concolorous with the rest of the wing. Hind wings white above and beneath. Legs pale gray, concolorous with the abdomen and under side of the fore wings.

Length of the body .55; fore wing .50 inch.

Not uncommon at Caribou Island. It differs from any other Labrador species known to us, by the single, broad, straight, longitudinal white stripe, dilating towards the apex of the wing.

Crambus argillaceellus n. sp.

♀. Of an uniform dark leaden clay color. Head and thorax with a bronzed hue, concolorous with the upper side of the palpi, which are white beneath, a white line running from them to the longitudinal white line situated just behind the subcostal vein, and dilating in the middle of the wing, ending acutely on the outer fourth; on each side of this point begin two parallel white lines, which end in a broad tri-

angular expansion on the apex. A submarginal dark reddish-brown line starts from the costa opposite the end of the white stripe, making an obtuse angle near the apex, and then following the outer edge of the wing, terminates in a sinuate course on the internal angle. Fringe much paler, but not whitish. Hind wings dark, argillaceous above and beneath. Legs dark in front, hind legs paler.

Length of the body .35; fore wing .35 inch.

Differs from any other species I am acquainted with, in its dark leaden hue, the dark hind wings, with the single longitudinal white stripe on the fore wings, succeeded by two white parallel lines, and a broad apical patch.

Square Island, Labrador, July 14, 1864.

Crambus trichostomus Christoph., Ent. Zeitung, Stettin. xix. p. 313. 1850. Mäschler, Wien. Entom. Monatsb. iv. Taf. 10, fig. 10. p. 379. 1860.

"July and August. Frequent."

Crambus labradoriensis Christoph., l. c. p. 314.

"Okak, July."

Crambus albellus Clemens, Proc. Ent. Soc. Philad. p. 418. March, 1864.

Near the mouth of Esquimaux River, Straits of Belle Isle, August 3, 1860.

Crambus inornatellus Clemens, l. c. 418.

Caribou Island, July 15, 1860.

TORTRICIDÆ.

Sciaphila niveosana n. sp.

♂. White, with dusky olive scales. Head brown, with whitish scales; palpi white above, and on the sides, except on the basal joint. Antennæ brown, minutely annulated with white; thorax brown; fore wings white, minutely with dusky olivaceous scales, which form a diffuse patch on the base of the wing, not reaching to the costa; another diffuse, oblique band in the middle of the wing, which is often divided into two patches simply, not reaching to the costa; another diffuse oblique band in the middle of the wing, often also divided into two patches, not extending to the costa, or inner edge of the wing; the wing is cloudy towards the apex; fringe white; hind wings a little dusky, fringe white; abdomen dusky, with a silvery reflection, scales of tip with a tawny hue.

Length of body .27; fore wings .36 inch.

It is allied to *Scaphiŷa oscana* of Europe, and may be easily recognized by its chalky white wings, and dusky scales clouding the surface at the base, in the middle, and towards the apex of the wing; sometimes the wing is nearly white, with only a dusky, diffuse, discal spot. Legs brown, with a deep olive reflection.

Osak, Weiz. Hopedale, August 3. Not infrequent.

Pandemis leucophaleratana *n. sp.*

Pale cinereous. Head very hairy; palpi large and bushy. Fore wings cinereous, with reddish-brown scales; checkered minutely on the costa with white dots, alternating with very oblique brown streaks, and directed outward. Just before the falcate apex are two parallel white short lines; a large white patch on the internal angle of the wing, reaching two-thirds of the way to the costa, not extending to the outside of the fringe, and on the inside presenting a well-defined once-angulated margin. Apex much elongated, very falcate, fringe on the costa blackish, white at base; below the apex the fringe is white, interrupted by a black line just under the apex. Hind wings uniformly cinereous.

Beneath, paler, hind wings paler than the primaries, costa white, interrupted with dark linear spots, apex black-brown, with a mesial longitudinal white streak, and below suddenly white. Legs ashen; tarsi annulated with white.

Length .26; fore wings .27 inch.

Allied to *P. heparana* of Europe. It may be known by its very falcate primaries; the large white patch on the internal margin, and the two small white costal lines just before the apex.

Hopedale, Labrador, August 3. Not common.

Conchylis chalcana *n. sp.*

Front bushy, palpi long and thick, middle of front white, on each side broadly margined with yellow; palpi ochreous on the sides; antennae dark, thorax with pale and ochreous scales, wings whitish gray, with an ochreous band and patches. Base of the wing dusky; beyond, a broad whitish band, succeeded by an oblique bronzed, ochreous band, which is dark on the costa, with dark scales in the middle of the wing. The band is deeply acutely indented on the submedian space; this is succeeded by a whitish band, with an interrupted row of deep ochreous patches, consisting of a costal and internal spot, the latter triangular, and situated on the inner edge, and margined with blackish on the edge, with a small mesial spot, with scattered deep ochreous scales. Beyond, is a dusky shade, going from the costal spot to the inner angle. Margin whitish, fringe whitish, black at base.

Hind wings dusky as usual, with a white fringe. Legs dark, ringed with whitish; hind legs pale whitish above.

Length of the body .25; fore wings .35 inch.

Strawberry Harbor, near Cape Wabuc, July 30. Not common.

Differs in its deep ochreous, almost bronzed, irregular oblique band, and outer row of three spots, that on the inner edge being triangular, margined with black.

Conchylis deutschiana Zett. p. 119.

"Dovrefeld, Norway," Wocke; Labrador, Möschler.

Tortrix gelidana Möschler, l. c. vi. p. 138. Taf. 1, figs. 9, 10. 1862. ♂, ♀. (*T. algitana* in the text.)

A common form at Hopetuan, less abundant at Square Island, farther south. It may possibly be found to be synonymous with Curtis's *Argyroloa*? *Paryana*, Pl. A, fig. 13.

Some specimens vary in being almost entirely bright ferruginous, with three darker triangular spots on the fore wings, arranged in a nearly equilateral triangle, the two basal ones being, one in the middle of the costa, the other at the apex. Fringe paler. Hind wings pale luteous-ashen; abdomen dark at base, tip tawny.

Hopedale, August 3 and 4. Henley Harbor, August 22.

Caribou Island, rare. This is evidently a high arctic species, growing less common southward toward the Straits of Belle Isle.

Penthina glaciana Möschler. Wien. Entom. Monatsch. viii. p. 199. 1864. *Serticoris glaciana* Möschler, l. c. iv. p. 380. Taf. 10 fig. 9.

Whole coast, common. At Caribou Island occurred specimens which differ in having the two white bands nearly straight, the outer especially so, having very regular sides, not sinuated deeply as usual.*

Penthina frigidana *n. sp.*

♂, ♀. Cinereous, head subfuscous, palpi cinereous. Fore wings spotted with dusky ashen and black, crossed by interrupted wavy lines, blackish on the costa; base of the wing whitish, but rather thickly dusted with black scales, with three black dots, two costal,

**Penthina glaciana* has been taken by Mr. F. G. Sanborn in considerable numbers during July, 1886, on the summit of Mount Washington, New Hampshire. Three varieties of the species occurred there, which correspond throughout with three similar variations of this same species which frequently occurred at Hopedale, Labrador, August 3, 1864. Two of the White Mountain specimens differed in having the transverse bands a little narrower; but on the whole, these differences do not amount to those usually presented by what are called by some naturalists "climatal varieties."

and one in the middle of the wing. This is succeeded by a darker band, and a broad, lighter space; on the outer fourth of the costa is an oblique band of even width, which crosses to the internal angle; in the middle of this white band is a narrow linear projection inwards under the subcostal. This band varies in sending in an acute point, or a simple linear elongation, and the white band may extend to the apex; it is marked on the costa, with three black dots. Hind wings cinereous as usual, more dusky at tip, fringe whitish, with two dusky lines at the apex, as on the fore wings. Beneath, uniformly dusky cinereous, costa on the outer half spotted with white and black, the three white spots at the apex being pupilled with black. Hind wings paler.

Length .30; fore wings .30 inch.

A common species, and closely allied to *P. glaciana*, but it is smaller, with narrower wings. The whitish line at the base of the fore wing is often obsolete, and the basal three-fourths of the wing are very uniform. It also differs in the outer white band, which varies greatly in shape, in being dentate inwards, not having the simple flexure inwards on the median that is present in *P. glaciana*.

Penthina tessellana n. sp.

♂, ♀. Cinereous with black patches and dots. Head and thorax dark, with whitish scales. Head blackish on the vertex, front paler, palpi dark, paler beneath; tips of second joint very square, truncate; third joint minute, acute, depressed. Fore wings checkered conspicuously on the costa with black, irregular bands and spots; a basal black band, growing pale inwards, with its outer edge irregular, enclosing a conspicuous white spot on the submedian vein; towards the costa, the edge becomes oblique, directed inwards on the costa. Beyond is a broad whitish band flecked with dark scales, which enclose a black dot on the costa. In the middle of the wing is a broad black band, limited on the costa, but below the middle of the wing formed of detached black patches, three in number, the outer one being near the internal angle. Beyond, on the costa, are three black checks, or square spots, alternating with white, the extreme apex is black, with a larger diffuse black conspicuous spot surrounded with white, this diffuse spot in the ♀ connects with the spot near the internal angle, forming an oblique submarginal line; edge of the wing dark, enclosing three white spots, which in fresh specimens form a short wavy white line; fringe uniformly dusky-brown, often interrupted with white. There is above a conspicuous white spot in the angle of the middle of the outer edge of the middle band.

Beneath, cinereous, checkered on the costa, hind wings paler. Legs cinereous, tarsi darker, ringed with whitish.

Length of body, ♂ .30, ♀ .28; fore wings, ♂ .30, ♀ .31 inch.

The female differs in having longer wings, while the male has a decidedly brown hue, with a white spotted fringe.

Its markings are not very characteristic, as the lines and spots vary greatly with the age of the specimens, and many of the specimens could scarcely be identified from the above description.

ered costa, each white spot being pupilled by a black dot; the distinct white square in the middle of the wing, and the blackish apical and subapical patches, together with the angulated mesial band, will further serve to distinguish it.

A common species ranging from Caribou Island to Hopedale. It was most abundant at Square Island in July.

Penthina fulvifrontana n. sp.

♂, ♀. Head, including the front, tawny; palpi dark cinereous, white at tip and beneath, second joint scarcely so broadly truncate at tip, as in *P. tessellana*; antennæ dark brown. Thorax dark cinereous. Fore wings brown, with ochreous scales, and three transverse whitish bands; brown at base, becoming blackish towards the whitish band, especially on the costa, which band is of even width throughout, and angulated outwardly on the median space, and which on the costa encloses a brown dot. A broad, irregular brown band in the middle of the wing, becoming blackish on the costa, with ochreous scales in the middle; beyond is a whitish band which terminates in a rounded end on the submedian vein, and enclosing on the costa a triangular brown spot. Beyond, are two slight oblique (outwards) brown lines, the outer one the longer, and terminating on the lower two-thirds of the outer edge. Apex brown, fringe white, brown on the extreme apex, with a dark, basal, narrow line, obsolete towards the inner edge, and a few brown scales in the middle.

Hind wings dusky cinereous, concolorous with the abdomen, the tip of which is paler and concolorous with the fringe. Beneath, the body and both wings are dusky cinereous, with four pale costal spots on the outer half of the wing, alternating with square blackish spots. The fore legs are ringed with white; hind legs pale cinereous.

Length .26; fore wing .27 inch.

Sloop Harbor, common July 19. Strawberry Harbor, July 26. Tub Island, Aug. 7.

A common species, though less so than the foregoing. When the specimens are rubbed, the body is paler, and the ochreous scales are much more distinct; these, with the pale tawny front, will readily distinguish it from the other species.

Penthina murina n. sp.

Mouse color, dusted thickly with tawny scales, head and thorax darker. Palpi blackish towards the tip; third joint black. Antennae brown, minutely annulated with white. Fore wings mouse color, with pale, tawny, obscure, small costal spots, and an obscure transverse, diffuse pale band, extending from just beyond the middle of the costa to the internal margin. There are no other markings. The apical portion of the costa is pale luteous, concolorous with the fringe, which on the outer half is dusky on the apex, sending an interrupted line towards the internal angle, with a similar dusky line at the base. Hind wings pale, becoming dusky towards the apex, concolorous with the hind legs. Abdomen dusky cinereous, anal tuft paler. Fore tarsi dusky cinereous, ringed with pale luteous.

Length of the body .30; fore wing .36 inch.

A common species at the Straits of Belle Isle. It is dull-colored mouse-brown, with lighter, fine scales, and paler spots on the fore costa, with a broad diffuse band from just beyond the middle of the costa to the internal margin, by which characters it may be known. It belongs to Lederer's genus *Heterogomon*, but does not differ generically from the other species mentioned above, referred to *Penthina*. July 14. Caribou Island.

Penthina mostäna Wocke.

"Finland," (Wocke); Labrador, Möschler, l. c. p. 199.

*Penthina turfosa*ana H.-Sch.

Finland (Standing); Labrador, Möschler. p. 199.

"*Penthina* n. sp." Christoph, l. c. p. 313. Möschler, l. c. p. 381.

"Near *Sauciana*." Labrador.

Ablabia pratana Hübner.

"Labrador," Christoph, l. c. p. 313. Möschler, l. c. p. 380.

Anchylopera plagosana Clemens. Proc. Ent. Soc. Phil. p. 417. March, 1864.

Abundant on the exposed low plains on Caribou Island, occurring rarely at Square Island.

Halonota Packardiana Clem., l. c. 417.

Caribou Island. Common.

Antithesia bipartitana Clem. Proc. Acad. Nat. Sc. Philad. 1860.

346. (1861.) Proc. Ent. Soc. Philad. II. p. 418. March, 1864.

Specimens from Labrador are a little larger, but do not differ es-

entially from those from Maine. Caribou Island, common, but not found northward. It is evidently not a member of the Arctic fauna.

Grapholitha nebulosana n. sp.

Body blackish, wings clouded, dusky; head, palpi and thorax, uniformly dull brown, abdomen becoming more cinereous, wings very uniformly dusky, with no lines or spots, but a few scattered black dots on the costa, and dusky scales on the middle of the wing, gathered into an obscure, dark spot, which has a slightly tawny tinge, and forms a short, oblique, dusky band. The hind wings are paler than the fore wings. The two anterior pairs of legs are dusky, the tarsi ringed with white, while the hind tibiae and tarsi are whitish silvery.

Length of the body .28; fore wing .36 inch.

It is not infrequent at Strawberry Harbor. July 26-30.

It may be recognized by the absence of very distinctive markings on the fore wings, and by the uniformly dusky body. A discal dot is sometimes present, communicating by a dark oblique line with a costal dot, and there are a few tawny scales on the apex. Fringe dusky, with a mesial white line, on the hind wings white.

TINEIDÆ.

Gelechia trimaculella n. sp.

♂. Blackish, especially the thorax, and the costa towards the apex of the fore wings. Front cinereous, palpi black above, beneath cinereous, terminal joint entirely black; wings dark cinereous with blackish scales; at the base, a narrow white line starts from the costa, and turns outward at a right angle, following the submedian vein, and is then bent downwards at a right angle, terminating just below the submedian. In the middle of the wing is a short longitudinal white stripe, ending near the dark, obscure, discal dot. On the outer front of the wing is a costal and internal white, conspicuous straight spot, which is white at the end near the middle of the wing. Fringe dusky ashen, or whitish; the hind wings are of the same ashen hue. Legs blackish, annulated with white, hind tibiae pale within.

Length .26; fore wing .34 inch.

Strawberry Harbor, the last of July.

In one specimen the fringe is whitish ashen, in the other it is dark, and the white markings are much more distinct. Beneath both wings are concolorous with the upper side of the secondaries, with a pale spot on the outer fourth of the costa.

Gelechia labradorica Möschler, Wien. Entom. Monatsch. viii. p. 200. Taf. 5, fig. 17. 3. 1864.

Moravian Missions, Labrador, Möschler.

Gelechia continuella Möschler, Wien. Entom. Monatsch. viii. p. 200.

"Finmark," Staudinger. Labrador, Möschler.

Gelechia labradorella Clemens. Proc. Ent. Soc. Philad. ii. p. 12. Caribou Island, Labrador, March, 1863.

Gelechia brumella Clem., l. c. March, 1864. p. 416. Caribou Island, July 20.

Tinea spilotella Tengström.

Tinea rusticella Linn. var. b. Möschler, l. c. vi. p. 139. viii. p. 200. (not *Blabophanes monachella*.)

Christoph, l. c. p. 314.

Tinea biflavimaculella Clem. Proc. Acad. Nat. Sc. Philad. Sept. 1859. p. 257. Proc. Ent. Soc. Philad. iii. p. 415. 1863.

"Okak, June." Christoph. Caribou Island, and Square Island, Labrador.

Ornix boreasella Clem., l. c. 416. 1863.

July 15. Caribou Island, Straits of Belle Isle.

Incurvaria labradorella Clem., l. c. 416. 1863.

With the preceding. Caribou Island.

Cecophora frigidella n. sp.

♂. Tawny, with a large black discal dot. Head and palpi pale tawny, of a little lighter hue than the wings. Body, including the abdomen, of a pale bronzed hue. Wings uniformly tawny, mottled with brown, especially towards the apex. A black dot on the submedian space in the middle of the wing, and a conspicuous large black discal dot on the outer third of the wing. Fringe bright tawny, like the wing, with dusky scales, and becoming paler below the apex. Hind wings much paler, but with a bronzed tinge. Fore legs cinereous, paler beneath, annulated with whitish, hinder pair pale tawny.

Beneath, dusky cinereous, apical half of costa tawny, hind wings dusky, paler behind.

Length .27; fore wing .30 inch.

Differs in its tawny head, the mottled brown spots on a tawny ground, on the outer half thickly mottled with black-brown, especially dark about the discal region.

Caribou Island and Square Island, Labrador.

Cecophora sp.

Another species was found at Hopedale, but my specimens are unfit to describe. It is allied to the *O. juniperatella* and *O. betulella* of Europe.

Glypnipteryx sp.

A specimen, probably of this genus, occurred at Caribou Island.

ADDITIONS TO A LIST OF BIRDS SEEN AT THE BAHAMAS. BY HENRY BRYANT, CURATOR OF ORNITHOLOGY, BOSTON SOCIETY OF NATURAL HISTORY.

In the year 1859, I visited the Bahama Islands, but was unable from want of time, to make as thorough an examination of them as I had hoped. At that time I was frequently told that Inagua, one of the largest and the most southerly of the group, was extremely fertile, that it contained forests of large trees and rich savannas. As this island is apparently detached from the rest of the group, and lies so much farther south, and as it is represented on many maps as hilly or mountainous, I thought that it was very probably of a different geological formation from the other islands, and consequently possessed of a different fauna. In order to determine these points, I visited it during the past winter, touching on my way at such islands as I had not previously visited; all those, including Watling Island, Rini Cay, Long Island, Crooked Island, Ackland Island and Fortune Island, presented, as I had expected, the same formation as the more westerly and northerly Cays; and to my great disappointment on arriving at Inagua, I found that that garden of Eden was, if any thing, more desolate and dreary than the others, and presented precisely the same geological formation. The fertile prairies, of which I had heard so much, were salt plains covered with a coarse grass, dotted here and there with clumps of stunted trees, and scarcely elevated above the level of the salt lake, or salina. The only difference between them and those on other Cays, was their greater extent. These plains are undoubtedly the remains of lagoons, formed by fringing reefs filled up by the action of the winds and waves. Watling Island exhibits this process in the most striking manner, as it is, strictly speaking, merely a narrow margin of an interior lagoon, much deeper than the salt lake at Inagua.

The interior of Inagua has never been thoroughly explored, and little is known of its eastern shore. The principal settlement, called Mathewston, is at the southwest end of the island, and a place of

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